REMARKS/ARGUMENTS

Reconsideration of the application is requested.

Claims 1-29 and 31-41 remain in the application. Claims 1, 24, 31-33, and 40-41 have been amended. Claim 30 has been cancelled. Method claims 1-23 have been previously withdrawn and rejoinder of these claims has been requested.

In the section entitled "Claim Rejections - 35 USC § 112" on page 2 of the above-identified Office action, claims 30-31 and 40 have been rejected as being indefinite under 35 U.S.C. § 112, second paragraph.

More specifically, the Examiner has stated that claim 30 recites an unclear limitation "said wiring structure has an adhesive layer on interfaces to a plastic plate formed by said first and second layers." Claim 30 has been cancelled.

The Examiner has also stated that claims 31 and 40 recite "the semiconductor chip has an active upper side embedded in said first plastic layer, and the semiconductor chip has passive rear sides covered by said second plastic layer," whereas the instant application discloses that the active upper side of

the semiconductor chip is embedded in the second plastic layer.

Amended claim 24 relates to a first embodiment of the invention (as shown in Figs. 1-8) in which a passive rear surface of the chip is pressed into the first plastic layer.

Claims 31 and 40 relate to a second embodiment of the invention (as shown in Figs. 9-11) in which an active side of the chip is pressed into the first plastic layer.

It is accordingly believed that the claims meet the requirements of 35 U.S.C. § 112, second paragraph. Should the Examiner find any further objectionable items, counsel would appreciate a telephone call during which the matter may be resolved. The above-noted changes to the claims are provided solely for cosmetic and/or clarificatory reasons. The changes are neither provided for overcoming the prior art nor do they narrow the scope of the claims for any reason related to the statutory requirements for a patent.

In the section entitled "Claim Rejections - 35 USC § 102" on pages 3-6 of the above-mentioned Office action, claims 24-26, 29-35, and 38-41 have been rejected as being anticipated by

Jiang et al. (US Pat. No. 6,515,355 B1) under 35 U.S.C. § 102(e).

In the section entitled "Claim Rejections - 35 USC § 103" on pages 6-7 of the above-mentioned Office action, claims 27-28 and 36-37 have been rejected as being unpatentable over Jiang et al. in view of Takeuchi et al. (US Pat. No. 6,548,598 B2) under 35 U.S.C. § 103(a).

The rejections have been noted and claims 24 and 33 have been amended in an effort to even more clearly define the invention of the instant application. Support for the changes is found on page 27, lines 1-9 of the specification and Fig. 1.

Before discussing the prior art in detail, it is believed that a brief review of the invention as claimed, would be helpful.

Claim 24 calls for, inter alia:

> the semiconductor chip having an active surface and a passive surface, the passive surface being embedded in said first plastic layer;
>
> the semiconductor chip having marginal sides surrounded, up to a partial height thereof, by said first plastic layer;
>
> said first plastic layer having a bead surrounding the semiconductor chip.

Claim 33 calls for, inter alia:

a first plastic layer surrounding the semiconductor chips on marginal sides and up to a partial height thereof;

...

the semiconductor chip having an active surface and a passive surface, the passive surface being embedded in said first plastic layer;

said first plastic layer having a bead surrounding the semiconductor chip.

Jiang et al. disclose a component in which the front side of the chip is mounted on a rewiring board and the rear side of the chip is covered by a siloxane layer, which acts as a passivation layer.

Jiang et al. fail to disclose a component in which the semiconductor chip is embedded on its marginal sides by two layers of a plastic embedding compound. Jiang et al. disclose an FR4 board and a siloxane coating. Neither of these materials is a plastic embedding compound.

Additionally, Jiang et al. fail to disclose the feature that the first plastic layer includes a bead surrounding the marginal regions of the semiconductor chip.

The invention of the instant application has the object of providing a simple and cost effective method for the deposition of a rewiring structure. This is achieved,

according to the invention of the instant application, by embedding the semiconductor chip in a multilayer plastic embedding compound. The method by which the component is made includes the step of embedding the chip in a first layer of the plastic embedding compound, which is partially cross-linked. This results in the formation of the bead in the first layer, which surrounds the chip. A homogeneous and flat surface to the component is then provided by the use of a second layer of the plastic embedding compound, which is deposited with a lower viscosity so that a flat surface is formed. The rewiring layer can then be reliably mounted on this surface and the electrical connections reliably formed.

The method according to the invention of the instant application provides the structural feature of the electronic component that the first plastic layer includes a bead of plastic embedding material surrounding the marginal regions of the chip. This feature provides an improved adhesion between the two layers of the plastic embedding material since the two layers have a form-locking engagement. Thus, the possible delamination of the layers is reduced.

Jiang et al. teach a component in which the chip is mounted on a board having a bond channel and the rear surface of the chip is covered with a passivation layer. In particular, Jiang et

al. teach methods for passivating exposed surfaces of the component, in particular, with plasma-polymerized methylsiloxane.

Jiang et al. give a person skilled in the art no incentive to provide an electronic component in which at least the side and rear faces are embedded in a plastic embedding compound since the passivating layer, as taught by Jiang et al., would then be superfluous. Since it is not obvious from the teaching of Jiang et al. to embed the chip in a multi-layer plastic embedding material, it is also not obvious to provide an electronic component in which the first plastic layer includes a bead surrounding the marginal regions of the semiconductor chip.

Clearly, Jiang et al. do not show "the semiconductor chip having an active surface and a passive surface, the passive surface being embedded in said first plastic layer;" and "said first plastic layer having a bead surrounding the semiconductor chip," as recited in claims 24 and 33 of the instant application.

Claims 24 and 33 are, therefore, believed to be patentable over Jiang et al. and since claims 25-29, 32, 34-39, and 41 are ultimately dependent on claims 24 or 33, they are believed

to be patentable as well. Claim 30 has been cancelled. Claims 31 and 40 have been rewritten in independent form. Claims 31 and 40 are believed to be patentable for similar reasons as discussed above.

In view of the foregoing, reconsideration and allowance of claims 24-29 and 31-41 are solicited. Rejoinder of method claims 1-23 is requested upon allowance of the product claims under MPEP 821.04 ("if applicant elects claims directed to the product, and a product claim is subsequently found allowable, withdrawn process claims which depend from or otherwise include all the limitations of the allowable product claim will be rejoined").

In the event the Examiner should still find any of the claims to be unpatentable, counsel would appreciate a telephone call so that, if possible, patentable language can be worked out.

If an extension of time for this paper is required, petition for extension is herewith made. Please charge any fees which might be due with respect to 37 CFR Sections 1.16 and 1.17 to

the Deposit Account of Lerner and Greenberg, P.A., No. 12-1099.

Respectfully submitted,

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